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SUMMARY

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THE ALUMINIUM INDUSTRY IN THE FEDERAL REPUBLIC OF CAMEROUN

By J. RIBADEAU-DUMAS

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By
J. RIBADEAU-DUMAS

The Edéa aluminium works (which produces from 45,000 to 50,000 metric tons of metal per annum) was the first large-scale industrial investment to have been concentrated all at once between the Sahara and the Congo. The technical, economic and social problems thereby created are more or less common to all similar types of investment in this area.

The site chosen is in a sub-equatorial forest area less than 100 km. from Douala (the principal port of the Cameroons). The factory itself is 640 m. long and 200 m. wide and is powered by the CAMEROONS ELECTRIC POWER STATION the installed capacity of which has been increased for the purpose from 20,000 kW to 155,000 kW. It has thus been possible to make full use of the waterfall downstream of Edéa and the Electricity Company's original investment has been made profitable. The aluminium factory, which was completed in less than four years, consists of 220 tanks for the electrolysis of aluminium imported from Guinea, and of an electrode paste manufacturing plant, a foundry (which processes native ore for commercial use) and a large maintenance workshop. Approximately 90% of the equipment and machines are of French origin.

Considerations leading to the construction of the factory:

The construction of the factory is directly related to the considerable increase in world consumption of aluminium since the war: production is based on a considerable demand for electricity and on bauxite ore which must be chemically transformed into alumina prior to electrolysis. Bauxite and alumina can be easily transported whereas electricity hardly can be, if (as is the case with aluminium, of which it constitutes an essential element of production) it is to be available at a very low cost.

Reserves of cheap hydroelectric power (which have gradually become increasingly exhausted in the industrialised countries), are available on a large scale in Black Africa.

Moreover, although here it normally takes the form of great falls calling for prolonged surveys and large-scale investment of capital (e.g. Konkouré, Volta, Kouilou, Congo), the Edéa site lent itself to relatively easy harnessing of power enabling the achievement within a short space of time of the production of aluminium in quantities which, though relatively small, constituted nevertheless an auxiliary source of supply for a metal-starved world.

Today the problem might well be viewed in a different light, both because the world capacity for aluminium production is temporarily equal to the demand, and because the economic use of non-hydraulic sources of electric power (natural gas, nuclear energy) might well prejudice interest in large hydro-electric installations.

Technical Aspects:

It is in fact impossible to operate such huge installations (the construction of which is very costly) on an economic basis unless it is certain that the power produced will be fully and regularly consumed, and this can be true only of the very high consumption industries such as that of aluminium.

When industrial undertakings are established in countries which are not sufficiently equipped or developed, many technical hazards have to be overcome and these affect both the cost of the installation and the cost price of the products which have to face keen international competition: the inadequacy of harbour installations, railways and roads (the effects of which were felt only slightly by the Edéa factory in view of the facilities available in the Cameroons) constitutes a considerable handicap, as is the need to obtain equipment and plant and frequently even the raw materials themselves, from the industrialised countries. In addition (and this applies particularly to a highly specialised industry like that of aluminium), it is essential to bring to the spot all the key personnel required at least during construction and commissioning, thus entailing all the problems of housing and even of supplies which occur in the case of transplanted communities.

Economic Aspects:

The economic plane is dominated by the major problem of finance which, in view of the conditions obtaining in the newly-formed countries, calls for large scale investment. Nevertheless, nearly all the development countries have been able to devise adequate juridical and taxation solutions to this problem in order to attract available capital. In Black Africa, where great care has gone into the preparation of legislation on this point, the Edéa factory was among the first to receive long-term guarantees of tax stability. Thus, following the initial period of investment, it has been able to proceed with further expansion.

On the other hand, the Edéa factory uses nearly all the power supplied by the Edéa power station after the normal requirements of the public have been met, and is the leading industrial concern in the country.

Social aspects:

Technical success unaccompanied by human or social success would be vain indeed. From this point of view, the Edéa factory is making every effort to translate its industrial and economic activity into terms of an improved standard of living for the indigenous population by the development of social facilities for employees and their families, and by unrelenting effort to replace Europeans by Cameroon nationals.

Development:

Any threat represented by new sources of energy to the progress of the development countries by means of their hydroelectric resources should not be viewed pessimistically. Although the development of these countries is the responsibility of the modern world, this is nevertheless effected at present less through the medium of large-scale industrial undertakings than through the implementation of all possible improvements in the agricultural product, the diversification of crops and the creation of light industry. It is in this latter field that heavy industries like aluminium can be of assistance. In fact, industries for the processing of this metal are already being established and developed in the Cameroons.

There, as elsewhere, cooperation between the development countries themselves (and Africa is well aware of the effectiveness of this method) and between the development countries and industrialised countries, (especially with a view to solving the problems of under-consumption), will remain the touchstone for the future.

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